

## CLAIMS

What is claimed:

1. A method for detecting the presence of ovarian cancer in a patient, comprising the steps of:
  - (a) obtaining a biological sample from a patient;
  - (b) contacting the biological sample with an oligonucleotide that hybridizes to a sequence set forth in any one of SEQ ID NOs: 223-230 under highly stringent conditions;
  - (c) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; and
  - (d) comparing the amount of polynucleotide that hybridizes to the oligonucleotide to a predetermined cut-off value, and therefrom detecting the presence of ovarian cancer in the patient.
2. The method of claim 1, wherein said detection of the amount of polynucleotide within said sample that hybridizes to the oligonucleotide is performed by PCR.
3. The method of claim 1, wherein the biological sample is selected from the group consisting of serum and ovarian tissue.
4. An oligonucleotide useful in the detection of ovarian cancer in a patient, wherein said oligonucleotide hybridizes to a sequence set forth in any one of SEQ ID NOs: 223-230 under highly stringent conditions.
5. A diagnostic kit comprising at least one oligonucleotide according to claim 4.
6. A method for detecting the presence of a cancer in a patient, comprising the steps of:
  - (a) obtaining a biological sample from a patient;

(b) contacting the biological sample with a binding agent that binds to a polypeptide selected from the group consisting of:

(i) a polypeptide encoded by a polynucleotide sequence set forth in any one of SEQ ID NOs: 223-230;

(ii) a sequence having at least 90% identity to said polypeptide;

(iii) a sequence having at least 95% identity to said polypeptide;

(c) detecting in the sample an amount of polypeptide that binds to the binding agent; and

(d) comparing the amount of polypeptide to a predetermined cut-off value and therefrom detecting the presence of a cancer in the patient.

7. A method for stimulating and/or expanding T cells specific for an ovarian tumor protein, comprising contacting T cells with at least one component selected from the group consisting of:

(a) a polypeptide sequence selected from the group consisting of:

(i) a polypeptide encoded by a polynucleotide sequence set forth in any one of SEQ ID NOs: 223-230;

(ii) a sequence having at least 90% identity to said polypeptide;

(iii) a sequence having at least 95% identity to said polypeptide;

(b) a polynucleotide selected from the group consisting of:

(i) a sequence set forth in any one of SEQ ID NOs: 223-230;

(ii) a complement of a sequence set forth in any one of SEQ ID NOs: 223-230;

(iii) a sequence consisting of at least 20 contiguous residues of a sequence set forth in any one of SEQ ID NOs: 223-230;

(iv) a sequence that hybridizes to a sequence set forth in any one of SEQ ID NOs: 223-230, under highly stringent conditions;

(v) a sequence having at least 90% identity to a sequence set forth in any one of SEQ ID NOs: 223-230; and

(vi) a sequence having at least 95% identity to a sequence set forth in any one of SEQ ID NOs: 223-230.

8. An isolated T cell population, comprising T cells prepared according to the method of claim 7.

9. A composition comprising a first component selected from the group consisting of physiologically acceptable carriers and immunostimulants, and a second component selected from the group consisting of:

- (a) a polypeptide sequence selected from the group consisting of:
  - (i) a polypeptide encoded by a polynucleotide sequence set forth in any one of SEQ ID NOs: 223-230;
  - (ii) a sequence having at least 90% identity to said polypeptide;
  - (iii) a sequence having at least 95% identity to said polypeptide;
- (b) a polynucleotide sequence selected from the group consisting of:
  - (i) a sequence set forth in any one of SEQ ID NOs: 223-230;
  - (ii) a complement of a sequence set forth in any one of SEQ ID NOs: 223-230;
  - (iii) a sequence consisting of at least 20 contiguous residues of a sequence set forth in any one of SEQ ID NOs: 223-230;
  - (iv) a sequence that hybridizes to a sequence set forth in any one of SEQ ID NOs: 223-228 under highly stringent conditions;
  - (v) a sequence having at least 95% identity to a sequence set forth in any one of SEQ ID NOs: 223-230;
  - (vi) a degenerate variant of a sequence set forth in any one of SEQ ID NOs: 223-230;
- (c) a T cell population according to claim 8; and
- (d) antigen presenting cells that express a polypeptide selected from the group consisting of:

(i) a polypeptide encoded by a polynucleotide sequence set forth in any one of SEQ ID NOs: 223-230.

(ii) a sequence having at least 90% identity to said polypeptide; and

(iii) a sequence having at least 95% identity to said polypeptide.